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(71) Applicant:  
Samsung Electronics Co., Ltd.  
Suwon City, Kyungki-do (KR)

(72) Inventor: Kim, Jong-Joo  
Yongin-shi, Kyonggi-do (KR)

(74) Representative:  
Grünecker, Kinkeldey,  
Stockmair & Schwanhäusser  
Anwaltssozietät  
Maximilianstrasse 58  
80538 München (DE)

(54)

Mobile radio terminal with SMS function for transmitting short message and method for controlling the same

(57) A mobile radio terminal with an SMS (short message service) function transmits a short message to different destination addresses by using a short message which was transmitted to a specified destination address. The mobile radio terminal includes a memory for storing a short message transmitted to a destination address, a user interface with which a user inputs a menu display request and chooses a menu, and a controller for controlling the mobile radio terminal. The controller reads the short messages from the memory in response to the menu display request, displays the read

short messages on the display, reads a user selected short message from the memory when the user selects one of the short messages by using the user interface, and temporarily stores the selected short message in a buffer. Thereafter, the controller changes the destination address of the short message stored in the buffer to another destination address, transmits the short message to the another destination address, accesses the memory to read the short message, and updates transmission time data of the short message.

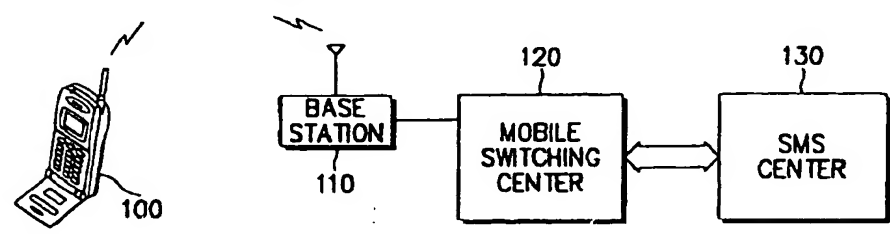


FIG. 1

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## Description

[0001] The present invention relates to a short message service for a mobile radio terminal, and in particular, to a mobile radio terminal capable of transmitting a short message to different destination addresses and a method for controlling the same.

[0002] A short message service (hereinafter, referred to as SMS for short) enables message communication between mobile radio terminals, or between a mobile radio terminal and a wired telephone. In the latter case, the short messages from a fixed communication network (e.g., a PSTN (Public Switched Telephone Network) or an ISDN (Integrated Services Digital Network) are stored in a processing unit of a mobile communication network, converted to digital data and then transmitted to the mobile radio terminal.

[0003] A mobile radio terminal, such as a GSM (Global Systems for Mobile communication) phone, a CDMA (Code Division Multiple Access) phone and a PCS (Personal Communication Service) phone, has a memory including an outgoing message (OGM) box and an incoming message (ICM) box for storing the transmitted and received short messages. Specifically, the short message stored in the outgoing message box consists of a header field, a time stamp field, a destination number field, a user data field and a tail field.

[0004] Conventionally, the stored short messages are managed merely for the users reference. Therefore, there is a demand for increasing the efficiency of the memory in the light of its application.

[0005] In some cases, the user may wish to transmit the same short message to several people. In the conventional mobile radio terminal, however, the user must edit the short messages each time he transmits them, regardless of the contents of the short message, which is inconvenient and troublesome.

[0006] It is therefore an object of the present invention to provide a mobile radio terminal with an SMS function and a method for controlling the same which can be more conveniently operated.

[0007] To achieve the above object, there is provided a mobile radio terminal with a short message service function having the features of claim 1. The object is also solved by a method comprising the steps recited in claim 3.

[0008] Preferred embodiments are subject to various dependent claims.

[0009] The present invention will become more apparent by describing in detail preferred embodiment thereof with reference to the attached drawings in which:

FIG. 1 is a block diagram of an SMS system for a mobile radio terminal to which the present invention is applied; and

FIG. 2 is a flow chart illustrating a method for transmitting a short message according to an embodiment of the present invention.

[0010] A preferred embodiment of the present invention will be described in detail hereinbelow with reference to the accompanying drawings in which the like reference numerals denote the like or equivalent elements. In the following description, numerous specific details are set forth to provide a more thorough understanding of the present invention. It will be apparent, however, to one skilled in the art that the present invention may be practiced without these specific details. In other instances, well known functions or constructions have not been described so as not to obscure the present invention.

[0011] FIG. 1 shows a block diagram of an SMS system for a mobile radio terminal to which the present invention is applied. Referring to FIG. 1, it is assumed that a mobile radio terminal 100 transmits a short message to a base station 110. A mobile switching center 120 acknowledges receipt of the short message to the mobile radio terminal 100, and transfers the received short message to another mobile radio terminal called by the mobile radio terminal 100. An SMS center 130, connected to other mobile switching centers (or the PSTNs and ISDNs), stores the short message received from the mobile switching center 120 and transfers it to another mobile switching center.

[0012] The mobile radio terminal 100 includes a memory for storing a short message transmitted to a destination address, a user interface with which the user inputs a menu display request and chooses a menu, and a controller for controlling the overall operations of the mobile radio terminal. The controller reads in sequence short messages from the memory in response to the menu display request, displays the read short messages on the display, reads a user selected short message from the memory when the user selects one of the short messages by using the user interface, and temporarily stores the selected short message in a buffer.

[0013] FIG. 2 is a flow chart showing a method for transmitting a short message according to an embodiment of the present invention. Referring to FIG. 2, a controller of the mobile radio terminal 100 which is in an idle state in step 210 determines in step 211 whether a message key is input or not. If the message key is input, the controller displays a message menu in letters on the display thereof in step 212. The message menu may include a message transmission function, a message reception function, and so forth. Here, the transmission function may include a cellular paging transmission function and a cellular message transmission function.

[0014] After displaying the message menu, the controller of the mobile radio terminal 100 checks in step 213 whether the user chooses the outgoing message box. If it is determined that the outgoing message box is not chosen, the controller returns to the step 210. On the contrary, if it is determined that the outgoing message box is chosen by the user, the controller set a variable n to 1 in step 214. Thereafter, the controller of the mobile radio terminal 100 accesses the memory to read

n-th short message stored in the outgoing message box and displays it on the display, in step 215. Then, the controller checks in step 216 whether a transmission key (i.e., SEND key) is input through the user interface. When the transmission key is not input, the controller increases the variable n by one in step 222, and then returns to the step 215, thereby to display the next short message on the display.

[0015] If the transmission key is input in the step 216, the controller of mobile radio terminal 100 accesses the outgoing message box of the memory to read n-th short message and temporarily stores it in a transmission buffer, in step 217. Subsequently, in step 218, the controller displays a message requiring the user to input a destination address. After that, if the destination address is input in step 219 through the user interface by the user, the controller replaces the original destination address for the n-th short message in the transmission buffer with the newly input destination address and transmits the above short message to the new destination address, in step 220. As described above, since the short message stored in the outgoing message box of the memory consists of the header field, the time stamp field, the destination number field, the user data field and the tail field, it is possible to transmit the short message to another destination by simply changing the destination number field.

[0016] After transmitting the short message, the controller accesses the outgoing message box of the memory and updates transmission time data of n-th short message to the above transmission time in step 221.

[0017] As described above, the mobile radio terminal can transmit the short message by using the previously stored short message, when it is necessary to transmit the same short message to another destination address, thereby contributing to the convenience of the user.

## Claims

1. A mobile radio terminal (100) with a short message service function for editing and transmitting a short message, comprising:
  - a memory for storing a short message transmitted to a destination address;
  - a user interface with which a user inputs a request and chooses a menu; and
  - a controller for reading a short message from the memory selected by a user using a user interface, and temporarily storing said selected short message in a buffer,
  - said controller being adapted to transmit the temporarily stored message to another destination address chosen by the user.
2. The mobile radio terminal as claimed in claim 1, wherein said controller changes said destination address of the short message stored in the buffer to

another destination address, and updates transmission time data of said short message.

3. A method for transmitting a short message in a mobile radio terminal including a memory for storing short messages, comprising the steps of:

checking in an idle state whether a message key is input;

displaying a message menu including an outgoing message box, when the message key is input;

checking whether said outgoing message box is selected from the message menu displayed; if said outgoing message box is selected, reading the short messages from the memory, displaying the read short messages and checking whether a user selects one of the short messages; and

requiring the user to input another destination address, reading said selected short message from the memory upon receipt of the destination address, changing the destination address of the said short message to said another destination address, and transmitting said short message to said another destination address.

4. The method as claimed in claim 3, further comprising the step of accessing the memory to read said short message and updating transmission time data of said short message, after transmitting said short message to said another destination address.

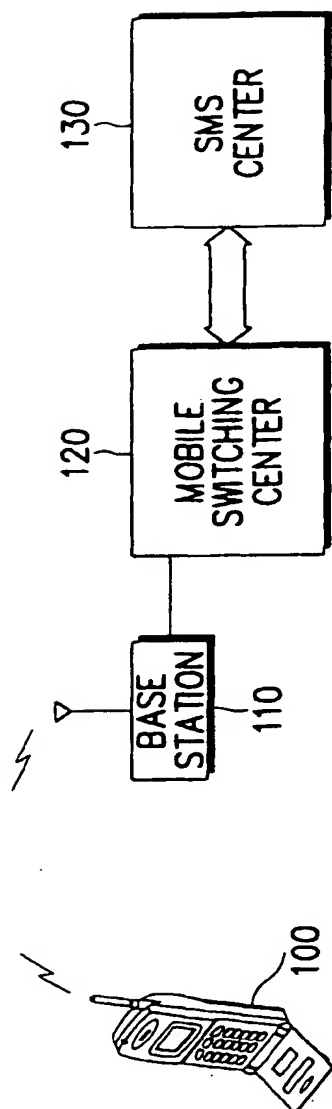


FIG. 1

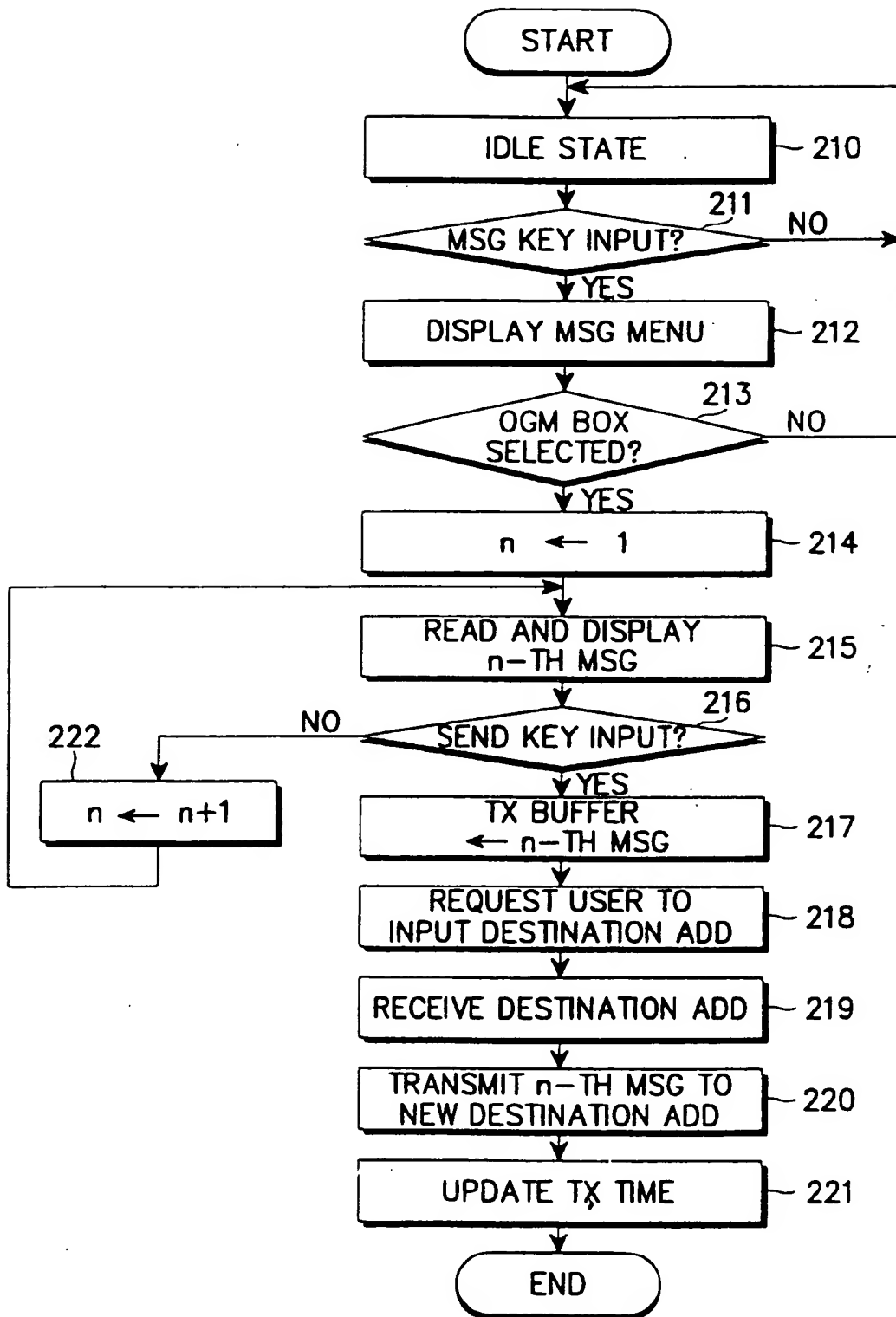


FIG. 2